

United States Department of Agriculture Natural Resources Conservation Service

Ecological Site Description

Site Type: Rangeland

Site Name: Coarse Upland (CU), 15-19" P.Z., Foothills and Mountains West

Site ID: R043BY208WY

Major Land Resource Area: 43B-Central Rocky Mountains

Physiographic Features

This site will usually occur in an upland position on rolling to rough topography, but it may occur on all slopes and positions.

Landform: hill sides, alluvial fans, ridges & stream terraces

Aspect: all

| | <u>Minimum</u> | <u>Maximum</u> |
|------------------------------------|-----------------------|----------------|
| Elevation (feet): | 5600 | 8300 |
| Slope (percent): | 25 | 65 |
| Water Table Depth (inches): | none within 60 inches | |
| Flooding: | | |
| Frequency: | none | none |
| Duration: | none | none |
| Ponding: | | |
| Depth (inches): | 0 | 0 |
| Frequency: | none | none |
| Duration: | none | none |
| Runoff Class: | negligible | moderate |

Climatic Features

Annual precipitation ranges from 15-19 inches per year. Wide fluctuations may occur in yearly precipitation and result in more dry years than those with more than normal precipitation. Temperatures show a wide range between summer and winter and between daily maximums and minimums. This is predominantly due to the high elevation and dry air, which permits rapid incoming and outgoing radiation. Cold air outbreaks in winter move rapidly from northwest to southeast and account for extreme minimum temperatures. Extreme storms may occur during the winter, but most severely affect ranch operations during late winter and spring.

Prevailing winds are from the southwest, and strong winds are less frequent than over other areas of Wyoming. Occasional storms, however, can bring brief periods of high winds with gusts exceeding 50 mph.

Growth of native cool season plants begins about May 15 and continues to about August 15.

The following information is from the "Jackson" climate station:

| | <u>Minimum</u> | <u>Maximum</u> | <u>5 yrs. out of 10 between</u> |
|----------------------------|----------------|----------------|---------------------------------|
| Frost-free period (days): | 12 | 60 | July 9 – August 12 |
| Freeze-free period (days): | 42 | 100 | June 20 – August 26 |

Annual Precipitation (inches): <11.98 >19.69 (2 years in 10)

Mean annual precipitation: 17.00 inches

Mean annual air temperature: 38.9°F (23.3°F Avg. Min. to 54.5°F Avg. Max.)

For detailed information visit the Natural Resources Conservation Service National Water and Climate Center at <http://www.wcc.nrcs.usda.gov/cgibin/state.pl?state=wy> website. Other climate stations representative of this precipitation zone include "Afton" in Lincoln County; and "Darwin Ranch" in Teton County.

Influencing Water Features

| Wetland Description: | <u>System</u> | <u>Subsystem</u> | <u>Class</u> | <u>Sub-class</u> |
|----------------------|---------------|------------------|--------------|------------------|
| None | None | None | None | None |

Stream Type: None

Representative Soil Features

The soils of this site are deep, well-drained and generally non-calcareous. Surface soils are usually loams or sandy loams. Soils contain at least 35 percent by volume coarse fragments in the first 20 inches. The volume of coarse fragments generally increases with depth. These stony, and/or bouldery soils occur as terraces, fan terraces, or glacial moraines.

Major Soil Series correlated to this site includes: Sebud and Sublette series.

Parent Material Kind: glacial till, alluvium

Parent Material Origin: granite, schist

Surface Texture: sandy loam, fine sandy loam, loamy

Surface Texture Modifier: very stony, cobbly, very cobbly, and extremely bouldery

Subsurface Texture Group: very stony sandy loam, very gravelly sandy loam, very cobbly sandy loam

Surface Fragments ≤ 3" (% Cover): 0-30

Surface Fragments > 3" (%Cover): 25-60

Subsurface Fragments ≤ 3" (% Volume): 10-40

Subsurface Fragments > 3" (% Volume): 20-50

| | <u>Minimum</u> | <u>Maximum</u> |
|--|----------------|------------------|
| Drainage Class: | well drained | well drained |
| Permeability Class: | moderate | moderately rapid |
| Depth (inches): | 20 | >60 |
| Electrical Conductivity (mmhos/cm) ≤20": | 0 | 2 |
| Sodium Absorption Ratio ≤20": | 0 | 0 |
| Soil Reaction (1:1 Water) ≤20": | 5.6 | 7.2 |
| Soil Reaction (0.1M CaCl2) ≤20": | NA | NA |
| Available Water Capacity (inches) ≤30": | 2.0 | 4.5 |
| Calcium Carbonate Equivalent (percent) ≤20": | 0 | 5 |

Plant Communities

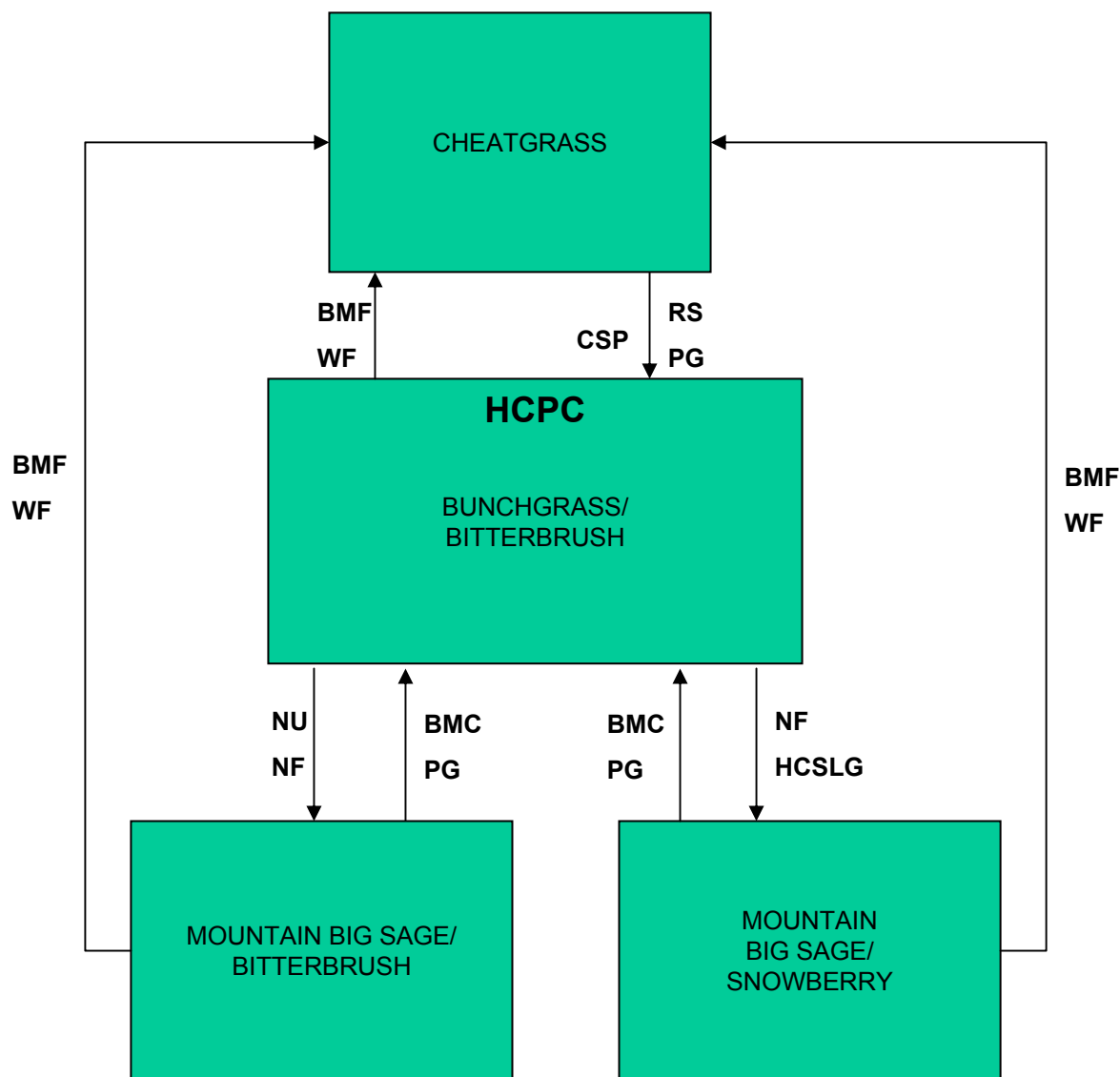
Ecological Dynamics of the Site:

As this site deteriorates because of a combination of frequent and severe grazing, species such as Idaho fescue, mountain big sagebrush and snowberry will increase. Cheatgrass often invades with ground disturbance and fire, especially on south and west facing slopes. Cool-season grasses such as bluebunch wheatgrass, Columbia needlegrass, spike fescue, and woody plants such as bitterbrush will decrease in frequency and production.

Mountain big sagebrush will become dominant with the absence of fire. Juniper and limber pine will often encroach on higher elevation slopes and ridges. Wildfires are often actively controlled so chemical control using herbicides has replaced the historic role of fire on this site. Recently, prescribed burning has regained some popularity.

The Historic Climax Plant Community (description follows the plant community diagram) has been determined by study of rangeland relic areas, or areas protected from excessive disturbance. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures, and historical accounts have also been used.

The following is a State and Transition Model Diagram that illustrates the common plant communities (states) that can occur on the site and the transitions between these communities. The ecological processes will be discussed in more detail in the plant community narratives following the diagram.



BMA – Brush Management (all methods)
 BMC – Brush Management (chemical)
 BMF – Brush Management (fire)
 BMM – Brush Management (mechanical)
 CSP – Chemical Seedbed Preparation
 CSLG – Continuous Season-long Grazing
 DR – Drainage
 CSG – Continuous Spring Grazing
 HB – Heavy Browse
 HCSLG – Heavy Continuous Season-long Grazing
 HI – Heavy Inundation
 LPG – Long-term Prescribed Grazing
 MT – Mechanical Treatment (chiseling, ripping, pitting)

NF – No Fire
 NS – Natural Succession
 NWC – Noxious Weed Control
 NWI – Noxious Weed Invasion
 NU – Nonuse
 P&C – Plow & Crop (including hay)
 PG – Prescribed Grazing
 RPT – Re-plant Trees
 RS – Re-seed
 SGD – Severe Ground Disturbance
 SHC – Severe Hoof Compaction
 WD – Wildlife Damage (Beaver)
 WF – Wildfire

Plant Community Composition and Group Annual Production
Reference Plant Community (HCPC)

| Reference Plant Community (R101-7) | | | | | |
|------------------------------------|-------------------------------------|----------------|---------------------------------|-----------|---------|
| COMMON NAME/GROUP NAME | SCIENTIFIC NAME | SYMBOL | Annual Production (Normal Year) | | |
| | | | Group | lbs./acre | % Comp. |
| | | | Total: 1600 | | |
| GRASSES AND GRASS-LIKES | | | | | |
| GRASSES/GRASSLIKES | | | | | |
| bluebunch wheatgrass | Pseudoroegneria spicata | PSSP6 | 1 | 160 - 560 | 10 - 35 |
| Idaho fescue | Festuca idahoensis | FEID | 2 | 80 - 160 | 5 - 10 |
| Spike fescue | Leucopoa kingii | LEKI2 | 3 | 160 - 320 | 10 - 20 |
| MISC. GRASSES/GRASSLIKES | | | 4 | 160 - 320 | 10 - 20 |
| Basin wildrye | Leymus cinereus | LECI4 | 4 | 0 - 80 | 0 - 5 |
| big bluegrass | Poa ampla (syn. P. secunda) | POAM (POSE) | 4 | 0 - 80 | 0 - 5 |
| bottlebrush squirreltail | Elymus elymoides | ELEL5 | 4 | 0 - 80 | 0 - 5 |
| California oatgrass | Danthonia californica | DACA3 | 4 | 0 - 80 | 0 - 5 |
| Canby bluegrass | Poa canbyi (syn. P. secunda) | POCA (POSE) | 4 | 0 - 80 | 0 - 5 |
| Columbia needlegrass | Achnatherum nelsonii | ACNE9 | 4 | 0 - 80 | 0 - 5 |
| Green needlegrass | Nassella viridula | NAVI4 | 4 | 0 - 80 | 0 - 5 |
| Letterman needlegrass | Achnatherum lettermanii | ACLE9 | 4 | 0 - 80 | 0 - 5 |
| mountain brome | Bromus marginatus | BRMA4 | 4 | 0 - 80 | 0 - 5 |
| mountain muhly | Muhlenbergia montana | MUMO | 4 | 0 - 80 | 0 - 5 |
| mutton bluegrass | Poa fendleriana | POFE | 4 | 0 - 80 | 0 - 5 |
| nodding brome | Bromus porteri | BRPO2 | 4 | 0 - 80 | 0 - 5 |
| one-spike oatgrass | Danthonia unispicata | DAUN | 4 | 0 - 80 | 0 - 5 |
| oniongrass | Melica bulbosa | MEBU | 4 | 0 - 80 | 0 - 5 |
| prairie junegrass | Koeleria macrantha | KOMA | 4 | 0 - 80 | 0 - 5 |
| Sandberg bluegrass | Poa secunda | POSE | 4 | 0 - 80 | 0 - 5 |
| slender wheatgrass | Elymus trachycaulis | ELTR7 | 4 | 0 - 80 | 0 - 5 |
| spike trisetum | Trisetum spicatum | TRSP2 | 4 | 0 - 80 | 0 - 5 |
| thickspike wheatgrass | Elymus lanceolatus ssp. lanceolatus | ELLAL | 4 | 0 - 80 | 0 - 5 |
| timber oatgrass | Danthonia intermedia | DAIN | 4 | 0 - 80 | 0 - 5 |
| other perennial grasses (native) | | 2GP | 4 | 0 - 80 | 0 - 5 |
| FORBS | | | 5 | 80 - 240 | 5 - 15 |
| American vetch | Vicia americana | VIAM | 5 | 0 - 80 | 0 - 5 |
| arrowleaf balsamroot | Balsamorhiza sagittata | BASA3 | 5 | 0 - 80 | 0 - 5 |
| Asters | Eucephalus & Symphyotrichum spp. | EUCEP2/ SYMPH4 | 5 | 0 - 80 | 0 - 5 |
| bluebell | Mertensia spp. | MERTE | 5 | 0 - 80 | 0 - 5 |
| buckwheat | Eriogonum spp. | ERIOG | 5 | 0 - 80 | 0 - 5 |
| buttercup | Ranunculus spp. | RANUN | 5 | 0 - 80 | 0 - 5 |
| clover | Trifolium spp. | TRIFO | 5 | 0 - 80 | 0 - 5 |
| Daisy | Townsendia spp. | TOWNS | 5 | 0 - 80 | 0 - 5 |
| fleabane | Erigeron spp. | ERIGE2 | 5 | 0 - 80 | 0 - 5 |
| geranium | Geranium spp. | GERAN | 5 | 0 - 80 | 0 - 5 |
| Goldenaster | Heterotheca spp. | HETER8 | 5 | 0 - 80 | 0 - 5 |
| goldenrod | Solidago spp. | SOLID | 5 | 0 - 80 | 0 - 5 |
| groundsel | Packera spp. | PACKE | 5 | 0 - 80 | 0 - 5 |
| Hawksbeard | Crepis spp. | CREPI | 5 | 0 - 80 | 0 - 5 |
| Hood's phlox | Phlox hoodii | PHHO | 5 | 0 - 80 | 0 - 5 |
| larkspur | Delphinium spp. | DELPH | 5 | 0 - 80 | 0 - 5 |
| little sunflower | Helianthus pumilus | HEPU3 | 5 | 0 - 80 | 0 - 5 |
| Locoweed | Oxytropis spp. | OXYTR | 5 | 0 - 80 | 0 - 5 |
| long-leaf phlox | Phox longifolia ssp. longifolia | PHLO2 | 5 | 0 - 80 | 0 - 5 |
| lupine | Lupinus spp. | LUPIN | 5 | 0 - 80 | 0 - 5 |
| milkvetch | Astragalus spp. | ASTRA | 5 | 0 - 80 | 0 - 5 |
| minerscandle | Cryptantha spp. | CRYPT | 5 | 0 - 80 | 0 - 5 |
| morningbride | Chaenactis douglasii var. alpina | CHDOA2 | 5 | 0 - 80 | 0 - 5 |
| mountain dandelion | Agoseris spp. | AGOSE | 5 | 0 - 80 | 0 - 5 |
| mule-ears | Wyethia amplexicaulis | WYAM | 5 | 0 - 80 | 0 - 5 |
| Mustard | Draba spp. | DRABA | 5 | 0 - 80 | 0 - 5 |
| Oregon grape | Mahonia repens | MARE11 | 5 | 0 - 80 | 0 - 5 |
| paintbrush | Castilleja spp. | CAST | 5 | 0 - 80 | 0 - 5 |
| penstemon | Penstemon spp. | PENST | 5 | 0 - 80 | 0 - 5 |
| Phacelia | Phacelia spp. | PHACE | 5 | 0 - 80 | 0 - 5 |
| Primrose | Primula spp. | PRIMU | 5 | 0 - 80 | 0 - 5 |
| Pussytoes | Antennaria spp. | ANTEN | 5 | 0 - 80 | 0 - 5 |
| sandwort | Arenaria spp. | ARENA | 5 | 0 - 80 | 0 - 5 |
| stonecrop | Sedum spp. | SEDUM | 5 | 0 - 80 | 0 - 5 |
| Thistle | Cirsium spp. | CIRSI | 5 | 0 - 80 | 0 - 5 |
| Toadflax | Comandra umbellata | COUMP | 5 | 0 - 80 | 0 - 5 |
| yarrow (common & western) | Achillea millefolium | ACMI2 | 5 | 0 - 80 | 0 - 5 |
| other perennial forbs (native) | | 2FP | 5 | 0 - 80 | 0 - 5 |
| TREES/SHRUBS | | | | | |
| antelope bitterbrush | Purshia tridentata | PUTR2 | 6 | 160 - 320 | 10 - 20 |
| big sagebrush | Artemisia tridentata | ARTR2 | 7 | 16 - 160 | 1 - 10 |
| MISC. SHRUBS | | | 8 | 0 - 80 | 0 - 5 |
| black sagebrush | Artemisia nova | ARNO4 | 8 | 0 - 80 | 0 - 5 |
| rubber rabbitbrush | Ericameria nauseosa | ERNA10 | 8 | 0 - 80 | 0 - 5 |
| serviceberry | Amelanchier alnifolia | AMAL2 | 8 | 0 - 80 | 0 - 5 |
| western snowberry | Symphoricarpus occidentalis | SYOC | 8 | 0 - 80 | 0 - 5 |

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors.

Plant Community Narratives

Following are the narratives for each of the described plant communities. These plant communities may not represent every possibility, but they probably are the most prevalent and repeatable plant communities. The plant composition tables shown above have been developed from the best available knowledge at the time of this revision. As more data is collected, some of these plant communities may be revised or removed, and new ones may be added. None of these plant communities should necessarily be thought of as “Desired Plant Communities”. According to the USDA NRCS National Range and Pasture Handbook, Desired Plant Communities (DPC's) will be determined by the decision-makers and will meet minimum quality criteria established by the NRCS. The main purpose for including any description of a plant community here is to capture the current knowledge and experience at the time of this revision.

Bunchgrass/Bitterbrush Plant Community (HCPC)

The interpretive plant community for this site is the Historic Climax Plant Community. This state evolved with grazing by large herbivores and is well suited for grazing by domestic livestock. Potential vegetation is estimated at 60% grasses or grass-like plants, 15% forbs, and 25% woody plants. The major grasses include bluebunch wheatgrass, spike fescue, and Idaho fescue. Other grasses may include California and timber oatgrass, oniongrass, spike trisetum, Columbia and Letterman needlegrass, mountain and nodding brome, slender and thickspike wheatgrass, Sandberg, Canby, and mutton bluegrass, and mountain muhly. Bitterbrush and mountain big sagebrush are the dominant woody plants. Other woody species may include rubber rabbitbrush, black sagebrush, snowberry, and serviceberry.

A typical plant composition for this state consists of bluebunch wheatgrass 10-35%, spike fescue 10-20%, Idaho fescue 5-10%, other grasses and grass-like plants 10-20%, perennial forbs 5-15%, bitterbrush 10-20%, mountain big sagebrush 1-10%, and up to 5% other woody species. The overstory of sagebrush and understory of grass and forbs provide a diverse plant community that will support domestic livestock and wildlife such as mule deer and antelope. Ground cover, by ocular estimate, varies from 45-55% and canopy cover of shrubs ranges from 30-45%.

The total annual production (air-dry weight) of this state is about 1600 lbs./acre, but it can range from about 1100 lbs./acre in unfavorable years to about 2000 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | 0 | 0 | 0 | 10 | 35 | 30 | 20 | 5 | 0 | 0 | 0 |

(Monthly percentages of total annual growth)

This plant community is extremely stable and well adapted to the Central Rocky Mountains climatic conditions. The diversity in plant species allows for high drought tolerance. This is a sustainable plant community (site/soil stability, watershed function, and biologic integrity).

Transitions or pathways leading to other plant communities are as follows:

- Nonuse and No Fire will convert this plant community to the *Mountain Big Sage/Bitterbrush State*.
- Heavy Continuous Season-long Grazing with No Fire will convert this plant community to the *Mountain Big Sage/Snowberry State*.

- Wildfire or Prescribed Fire (on predominantly south and west facing slopes) may convert this plant community to the *Cheatgrass State*.

Mountain Big Sage/Bitterbrush Plant Community

This plant community is a result of nonuse and lack of fire. Woody plants such as big sagebrush and bitterbrush are dominant, making up 20 to 75% of the annual production. Rocky Mountain juniper and limber pine often encroach on higher elevation ridges and on north facing slopes. Woody plants may become decadent and of lower nutritive value for wildlife and livestock. Major grasses in the understory include bluebunch wheatgrass, Columbia needlegrass, and spike fescue.

The total annual production (air-dry weight) of this state is about 1200 pounds per acre, but it can range from about 900 lbs./acre in unfavorable years to about 1800 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | 0 | 0 | 0 | 10 | 35 | 30 | 20 | 5 | 0 | 0 | 0 |

(Monthly percentages of total annual growth)

The state is stable and protected from excessive erosion. The biotic integrity of this plant community is usually intact, however forage value will decrease and wildlife values will shift toward different species. The watershed is functioning.

Transitions or pathways leading to other plant communities are as follows:

- Chemical Brush Management followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will result in a plant community very similar to the *Historic Climax Plant Community (Bunchgrass/Bitterbrush State)*. Care should be taken when planning brush management to consider wildlife and critical winter ranges.
- Wildfire or Prescribed Fire (on predominantly south and west facing slopes) may convert this plant community to the *Cheatgrass State*.

Mountain Big Sage/Snowberry Plant Community

This plant community is the result of heavy continuous season-long grazing with long-term protection from fire. Sagebrush and snowberry eventually dominate this plant community with annual production often exceeding 60%. Rocky Mountain juniper and limber pine often encroach on higher elevation ridges and on north facing slopes. Bitterbrush, although present, will be severely suppressed by sagebrush overstory and heavy browsing. Dominant grasses include rhizomatous wheatgrass, Canby and Sandberg bluegrass, and Letterman needlegrass.

The total annual production (air-dry weight) of this state is about 700 pounds per acre, but it can range from about 500 lbs./acre in unfavorable years to about 1400 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | 0 | 0 | 0 | 10 | 35 | 30 | 20 | 5 | 0 | 0 | 0 |

(Monthly percentages of total annual growth)

Soil erosion is increased because of increased bare ground in the understory. The biotic community has been compromised, but is relatively stable. The watershed is functioning, but is at risk of further degradation. Water flow patterns and pedestals are obvious. Infiltration is reduced and runoff is increased.

Transitions or pathways leading to other plant communities are as follows:

- Chemical Brush Management followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will result in a plant community very similar to the *Historic Climax Plant Community (Bunchgrass/Bitterbrush State)*. Care should be taken when planning brush management to consider wildlife and critical winter ranges.
- Wildfire or Prescribed Fire (on predominantly south and west facing slopes) may convert this plant community to the *Cheatgrass State*.

Cheatgrass Plant Community

This plant community is a result of wildfire or a hot prescribed fire on predominantly south and west facing slopes. Bunchgrasses such as basin wildrye, bluebunch wheatgrass, Columbia needlegrass, spike fescue, and big bluegrass respond well as long as deferment follows the fire. The response of bitterbrush to fire can be quite varied, depending on the intensity of the fire. Cheatgrass often invades these sites, particularly on south and west facing slopes, effectively decreasing the fire interval (fewer years between fire events) of the site, and preventing mature shrub establishment.

The total annual production (air-dry weight) of this state is about 600 pounds per acre, but it can range from about 300 lbs./acre in unfavorable years to about 1200 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | 0 | 0 | 0 | 10 | 35 | 30 | 20 | 5 | 0 | 0 | 0 |

(Monthly percentages of total annual growth)

The state is vulnerable to excessive erosion. The biotic integrity of this plant community is at risk depending on how far a shift has occurred in plant composition toward green rabbitbrush, cheatgrass, and annual forbs. The watershed is at risk as bare ground increases.

Transitions or pathways leading to other plant communities are as follows:

- Chemical Seedbed Preparation and Re-seeding followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will result in a plant community very similar to the *Historic Climax Plant Community (Bunchgrass/Bitterbrush State)* although cheatgrass may remain a part of the plant community. Additional deferment may be necessary and should be prescribed on an individual site basis.

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Bunchgrass/Bitterbrush Plant Community (HCPC): This plant community provides suitable thermal and escape cover for mule deer, elk, and antelope. Bitterbrush and sagebrush provide important winter forage for mule deer, antelope, and elk. Year-round habitat is provided for many sagebrush obligate species such as the sage sparrow, Brewer's sparrow, sage thrasher, pygmy rabbit, sagebrush vole, horned lizard, and pronghorn antelope. Other birds that would frequent this plant community include horned larks and golden eagles.

Mountain Big Sage/Bitterbrush Plant Community: This plant community may be beneficial for the same wildlife that would use the Historic Climax Plant Community. However, the plant community composition is less diverse, and thus, less apt to meet the seasonal needs of these animals.

Mountain Big Sage/Snowberry Plant Community: This plant community may be beneficial for the same wildlife that would use the Historic Climax Plant Community. However, the plant community composition is less diverse, and thus, less apt to meet the seasonal needs of these animals. Bitterbrush suppression affects the quality and quantity of winter forage for mule deer and elk.

Cheatgrass Plant Community: This plant community provides spring forage and limited cover for elk and mule deer due to lack of woody species.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA 43B, 15-19W

| COMMON NAME/GROUP NAME | SCIENTIFIC NAME | SYMBOL | Cattle | Sheep | Horses | Mule Deer | Antelope | Elk | Moose |
|---------------------------|--|---------------|--------|-------|--------|-----------|----------|------|-------|
| GRASSES/GRASSLIKES | | | | | | | | | |
| Alkali bluegrass | <i>Poa juncea</i> (syn. to <i>P. secunda</i>) | POJU | DDDD | PPPP | DDDD | PPPP | PPPP | DDDD | DDDD |
| Alkali muhly | <i>Muhlenbergia asperifolia</i> | MUAS | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Alkali sacaton | <i>Sporobolus airoides</i> | SPAI | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP | DDDD |
| Alpine timothy | <i>Phleum alpinum</i> | PHAL2 | PPPP | PPPP | PPPP | DDDD | UUUU | PPPP | DDDD |
| American manna grass | <i>Glyceria grandis</i> | GLGR | DDDD | UUUU | DDDD | UUUU | UUUU | DDDD | DDDD |
| Baltic rush | <i>Juncus balticus</i> | JUBA | DDDD | UUUU | DDDD | UUUU | UUUU | DDDD | UUUU |
| Basin wildrye | <i>Leymus cinereus</i> | LEC4 | PPPP | PPPP | PPPP | DDDD | DDDD | PPPP | DDDD |
| Beaked sedge | <i>Carex rostrata</i> | CAR06 | DDUD | UUUU | DDUD | UUUU | UUUU | DDUD | DDUD |
| Bearded wheatgrass | <i>Elymus trachycaulus</i> ssp. <i>subsecundus</i> | ELTRS | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP | DDDD |
| Bentgrass | <i>Agrostis</i> spp. | AGROS2 | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP | DDDD |
| Big bluegrass | <i>Poa ampla</i> (syn. to <i>Poa secunda</i>) | POAM | PPPP | DDDD | PPPP | PPPP | PPPP | PPPP | PPPP |
| Blue wildrye | <i>Elymus glaucus</i> | ELGL | PPPP | DDDD | PPPP | DDDD | UUUU | PPPP | DDDD |
| Bluebunch wheatgrass | <i>Pseudoroegneria spicata</i> | FSSP6 | PPPP | PPPP | PPPP | DDDD | DDDD | PPPP | DDDD |
| Bluejoint reedgrass | <i>Calamagrostis canadensis</i> | CACA4 | PPPP | DDDD | PPPP | UUUU | UUUU | PPPP | DDDD |
| Bottlebrush squirreltail | <i>Elymus elymoides</i> | ELELE | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | NNNN |
| Bulrush | <i>Scirpus</i> spp. | SCIRP | DDDD | UUUU | UUUU | UUUU | UUUU | DDDD | DDDD |
| California oatgrass | <i>Danthonia californica</i> | DACA3 | PPPP | DDDD | DDDD | DDDD | DDDD | PPPP | DDDD |
| Canby bluegrass | <i>Poa canbyi</i> (syn. to <i>Poa secunda</i>) | POCA | PPPP | DPDD | DPDD | DPDD | DPDD | PPPP | DPDD |
| Cattail | <i>Typha</i> spp. | TYPHA | DUUD | DUUD | DUUD | DUUD | DUUD | DUUD | DUUD |
| Columbia needlegrass | <i>Achnatherum nelsonii</i> | ACNE9 | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP | DDDD |
| Cusick bluegrass | <i>Poa cusickii</i> | POCU3 | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Dunehead sedge | <i>Carex phaeocephala</i> | CAPH2 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Fowl bluegrass | <i>Poa palustris</i> | POPA2 | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Green needlegrass | <i>Nassella viridula</i> | NAV14 | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Idaho fescue | <i>Festuca idahoensis</i> | FEID | DDPD | DDPD | DDPD | DDDD | DDDD | DDPD | DDDD |
| Indian ricegrass | <i>Achnatherum hymenoides</i> | ACHY | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Inland saltgrass | <i>Distichlis spicata</i> | DISP | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Inland sedge | <i>Carex interior</i> | CAIN11 | DDDD | DDDD | DDDD | UUUU | UUUU | DDDD | DDDD |
| Letterman needlegrass | <i>Achnatherum lettermanii</i> | ACLE9 | UPUU | UPUU | UPUU | DDDD | DDDD | DDDD | DDDD |
| Little barley | <i>Hordeum pusillum</i> | HOPU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Mat muhly | <i>Muhlenbergia richardsonis</i> | MURI | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Montana wheatgrass | <i>Elymus albicans</i> | ELAL7 | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Mountain brome | <i>Bromus marginatus</i> | BRMA4 | PPPP | PPPP | DDDD | DDDD | NNNN | PPPP | DDDD |
| Mountain muhly | <i>Muhlenbergia montana</i> | MUMO | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Mutton bluegrass | <i>Poa fendleriana</i> | POFE | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Nebraska sedge | <i>Carex nebrascensis</i> | CANE2 | PPPP | PPPP | PPPP | PPPP | DDDD | PPPP | DDDD |
| Needleleaf sedge | <i>Carex duriscula</i> | CADU6 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Nodding brome | <i>Bromus porteri</i> | BRPO2 | PPPP | PPPP | DDDD | DDDD | UUUU | PPPP | DDDD |
| Northern reedgrass | <i>Calamagrostis stricta</i> ssp. <i>inexpansa</i> | CAST13 | PPPP | DDDD | PPPP | DDDD | UUUU | PPPP | DDDD |
| Nuttall's alkalgrass | <i>Puccinellia nuttalliana</i> | PUNU2 | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| One-spoke oatgrass | <i>Danthonia unispicata</i> | DAUN | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | DDDD |
| Oniongrass | <i>Melica bulbosa</i> | MEBU | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Prairie junegrass | <i>Koeleria macrantha</i> | KOMA | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Pumpelly's brome | <i>Bromus inermis</i> ssp. <i>pumpellianus</i> | BRINP | PPPP | PPPP | DDDD | DDDD | UUUU | PPPP | DDDD |
| Redtop | <i>Agrostis stolonifera</i> | AGST2 | UPDU | UPDU | UPDU | UPDU | UPDU | UPDU | UPDU |
| Reed canarygrass | <i>Phalaris arundinacea</i> | PHAR3 | UDDU | UDDU | UDDU | UDDU | UDDU | UDDU | UDDU |
| Richardson's needlegrass | <i>Achnatherum richardsonii</i> | ACHRI8 | PPPP | PPPP | DDDD | DDDD | DDDD | PPPP | DDDD |
| Sandberg bluegrass | <i>Poa secunda</i> | POSE | UDDU | UDDU | UDDU | UDDU | UDDU | UDDU | UDDU |
| Shortawn foxtail | <i>Alopecurus aequalis</i> | ALAE | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Slender wheatgrass | <i>Elymus trachycaulus</i> | ELTR7 | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP | DDDD |
| Spikifescue | <i>Leucopoa kingii</i> | LEK12 | PPPP | DDDD | PPPP | PPPP | DDDD | PPPP | DDDD |
| Spikerush | <i>Eleocharis</i> spp. | ELEOC | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Spike trisetum | <i>Trisetum spicatum</i> | TRSP2 | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP | DDDD |
| Sun sedge | <i>Carex inops</i> ssp. <i>heliophila</i> | CAINH2 | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP | DDDD |
| Tall mannagrass | <i>Glyceria elata</i> (syn. <i>G. striata</i>) | GLEL | DDDD | UUUU | DDDD | UUUU | UUUU | DDDD | DDDD |
| Thickspike wheatgrass | <i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i> | ELMA7 | DPDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Threadleaf sedge | <i>Carex filifolia</i> | CAFI | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Timber oatgrass | <i>Danthonia intermedia</i> | DAIN | DDDD | DDDD | DDDD | UUUU | UUUU | DDDD | DDDD |
| Tufted hairgrass | <i>Deschampsia caespitosa</i> | DECA18 | PPPP | PPPP | PPPP | DDDD | DDDD | PPPP | DDDD |
| Water sedge | <i>Carex aquatilis</i> ssp. <i>aquatilis</i> | CACA3 | UDDU | UDDU | UDDU | UDDU | UDDU | UDDU | UDDU |
| Western needlegrass | <i>Achnatherum occidentale</i> | ACOOQ | PPPP | PPPP | PPPP | DDDD | DDDD | PPPP | DDDD |
| Western wheatgrass | <i>Pascopyrum smithii</i> | PASM | DPDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| FORBS | | | | | | | | | |
| American licorice | <i>Glycyrrhiza lepidota</i> | GLLE3 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| American bistort | <i>Polygonum bistortoides</i> | POB16 | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| American vetch | <i>Vicia americana</i> | VIAM | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | DDDD |
| Arnica | <i>Arnica</i> spp. | ARNIC | UUUU | UUUU | UUUU | DDDD | UUUU | UUUU | UUUU |
| Arrowgrass | <i>Triglochin</i> spp. | TRIGL | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT |
| Asters | <i>Eucephalus & Symphyotrichum</i> spp. | EUCEP2/SYMPH4 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Avens (prairie smoke) | <i>Geum</i> spp. | GEUM | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Balsamorhiza | <i>Balsamorhiza</i> spp. | BALSA | DPDD | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Bedstraw | <i>Galium</i> spp. | GALIU | UUUU | DDDD | UUUU | DDDD | DDDD | DDDD | UUUU |
| Biscuitroot | <i>Lomatium</i> spp. | LOMAT | DDDD | DDDD | UUUU | DDDD | DDDD | DDDD | DDDD |
| Bitterroot | <i>Lewisia rediviva</i> ssp. <i>rediviva</i> | LERER | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Bluebell | <i>Mertensia</i> spp. | MERTE | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Blue-eyed grass | <i>Sisyrinchium</i> spp. | SISYR | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Buckwheat | <i>Eriogonum</i> spp. | ERIOG | UUUU | DDDD | UUUU | UUUU | UUUU | UUUU | UUUU |
| Buttercup | <i>Ranunculus</i> spp. | RANUN | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Cinquefoil (herbaceous) | <i>Potentilla</i> spp. | POTEN | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Clover | <i>Trifolium</i> spp. | TRIFO | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Columbine | <i>Aquilegia</i> spp. | AQUIL | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Cow parsnip | <i>Hieracium maximum</i> | HERAC | PPPP | PPPP | PPPP | PPPP | PPPP | DDDD | NNNN |
| Daisy | <i>Townsendia</i> spp. | TOWNS | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Deathcamas | <i>Zigadenus venenosus</i> | ZIVE | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT |
| Elephanthead lousewort | <i>Pedicularis groenlandica</i> | PEGR2 | UUUU | DDDD | UUUU | DDDD | UUUU | UUUU | DDDD |
| Elk thistle | <i>Cirsium foliosum</i> | CIFO | UDDU | UUUU | UDDU | UDDU | UUUU | UDDU | UUUU |
| Evening-primrose | <i>Oenothera</i> spp. | OENOT | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Fireweed | <i>Chamerion angustifolium</i> | CHAN9 | PPPP | DDDD | UUUU | PPPP | DDDD | PPPP | PPPP |
| Flax | <i>Linum</i> spp. | LINUM | UPDU | UPDU | UPDU | UPDU | UPDU | UPDU | UPDU |
| Fleabane | <i>Erigeron</i> spp. | ERIGE2 | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Gentian | <i>Gentiana</i> spp. | GENTI | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Geranium | <i>Geranium</i> spp. | GERAN | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Gilia | <i>Gilia</i> spp. | GILIA | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Goldenaster | <i>Heterotheca</i> spp. | HETER8 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Goldenpea | <i>Thermopsis</i> spp. | THERM | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Goldenrod | <i>Solidago</i> spp. | SOLID | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Golden smoke | <i>Corydalis aurea</i> | COAU2 | TTUU | TTUU | TTUU | TTUU | TTUU | TTUU | TTUU |
| Goldenweed, stemless | <i>Stenotus acutis</i> ssp. <i>acutis</i> | STACA | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Green gentian | <i>Frasera speciosa</i> | FRSP | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Groundsel | <i>Packera</i> spp. | PACKE | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Harebell (bellflower) | <i>Campanula</i> spp. | CAMPA | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Hawksbeard | <i>Crepis</i> spp. | CREPI | UUUU | PPPP | UUUU | DDDD | DDDD | UUUU | DDDD |
| Hawkweed | <i>Hieracium</i> spp. | HIERA | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Horsemint | <i>Agastache</i> spp. | AGAST | DDDD | DDDD | UUUU | DDDD | DDDD | DDDD | DDDD |
| Horsetail (scouring rush) | <i>Equisetum</i> spp. | EQUIS | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Iris (Rocky Mountain) | <i>Iris missouriensis</i> | IRMI | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA 43B, 15-19W

| COMMON NAME/GROUP NAME | SCIENTIFIC NAME | SYMBOL | Cattle | Sheep | Horses | Mule Deer | Antelope | Elk | Moose |
|---|--|--------|--------|-------|--------|-----------|----------|------|-------|
| Larkspur (poisonous in spring before flowering) | Delphinium spp. | DELPH | DTDD | DTDD | DTDD | DTDD | DTDD | DTDD | DTDD |
| Little sunflower | Helianthus pumilus | HEPU3 | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Locoweed | Oxytropis spp. | LOXTR | TTUU | TTUU | TTUU | TTUU | TTUU | TTUU | TTUU |
| Lupine (may be poisonous after seedpots mature) | Lupinus spp. | LUPIN | DDTT | DDTT | DDTT | DDTT | DDTT | DDTT | DDTT |
| Meadow-rue | Thalictrum occidentale | THOC | DDDD | PPPP | DDDD | PPPP | PPPP | DDDD | PPPP |
| Milkvetch | Astragalus spp. | ASTRA | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Minerscandle | Cryptantha spp. | CRYPT | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Mint (wild) | Mentha arvensis | MEAR4 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Monkeyflower | Mimulus spp. | MIMUL | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Monkshood | Aconitum spp. | ACONI | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT |
| Mountain dandelion | Agoseris spp. | AGOSE | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | DDDD |
| Mule-ears | Wyethia amplexicaulis | WYAM | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Mustard | Draba spp. | DRABA | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Nailwort | Paronychia spp. | PARON | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Onion (wild) | Allium spp. | ALLI4 | DPDD | PPPP | DPDD | DPDD | PPPP | DPDD | DPDD |
| Oregon grape | Mahonia repens | MARE11 | UUUU | DDDD | UUUU | PPPP | DDDD | DDDD | DDDD |
| Owl's-clover | Orthocarpus spp. | ORTHO | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Paintbrush | Castilleja spp. | CAST | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Peavine | Lathyrus spp. | LATHY | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Penstemon | Penstemon spp. | PENST | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Phacelia | Phacelia spp. | PHACE | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Phlox | Phlox spp. | PHLOX | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Plantain | Plantago spp. | PLANT | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Primrose | Primula spp. | PRIMU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Pussytoes | Antennaria spp. | ANTEN | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Ragwort (groundsel) | Senecio spp. | SENEC | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT |
| Sandwort | Arenaria spp. | ARENA | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Shooting star | Dodecatheon spp. | DODEC | DDDD | DDDD | UUUU | DDDD | UUUU | UUUU | UUUU |
| Starwort | Stellaria spp. | STELL | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Sego lily | Calochortus nuttallii | CANU3 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Smartweed (knotweed) | Polygonum spp. | POLYG4 | UUUU | UUUU | UUUU | DDDD | UUUU | UUUU | UUUU |
| Sneezeweed, orange (rubberweed) | Hymenoxys spp. | HYMEN7 | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT |
| Springbeauty | Claytonia spp. | CLAYT | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Stinging nettle | Urtica dioica | URDI | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Stonecrop | Sedum spp. | SEDUM | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Stoneseed | Lithospermum spp. | LITHO3 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Sunflower | Helianthus spp. | HELIA3 | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP | PPPP |
| Sweetroot | Osmorhiza spp. | OSMOR | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Toadflax | Comandra umbellata | COUMP | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Valerian (tobacco root) | Valeriana spp. | VALER | DDDD | PPPP | DDDD | DDDD | DDDD | DDDD | DDDD |
| Violet | Viola spp. | VIOLA | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Water hemlock (spotted) | Cicuta maculata var. angustifolia | CIMAA | TTUU | TTUU | TTUU | TTUU | TTUU | TTUU | TTUU |
| Waterleaf | Hydrophyllum spp. | HYDR04 | DDDD | DDDD | DDDD | PPPP | DDDD | DDDD | DDDD |
| Western coneflower | Rudbeckia occidentalis | RUOC2 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Wild strawberry (false strawberry) | Fragaria vesca | FRVE | DDDD | PPPP | DDDD | PPPP | PPPP | DDDD | DDDD |
| Yarrow (common & western) | Achillea millefolium | ACMI2 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Yellowbell | Fritillaria pudica | FRPU2 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Yellow sneezeweed | Helenium autumnale | HEAU | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT |
| TREES, SHRUBS & HALF-SHRUBS | | | | | | | | | |
| Alpine laurel (bog kalmia) | Kalmia microphylla | KAMI | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT | TTTT |
| Antelope bitterbrush | Purshia tridentata | PUTR2 | PPPP | PPPP | DDDD | PPPP | PPPP | PPPP | PPPP |
| Aspen | Populus tremuloides | POTR5 | DDDD | DDDD | DDDD | PPPP | DDDD | PPPP | PPPP |
| Basin big sagebrush | Artemisia tridentata ssp. tridentata | ARTR1 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Big sagebrush | Artemisia tridentata | ARTR2 | UUUU | DDDD | UUUU | PPPP | PPPP | DDDD | DDDD |
| Black sagebrush | Artemisia nova | ARN04 | DDDD | PPPP | UUUU | DDDD | DDDD | DDDD | DDDD |
| Chokecherry (toxic in large amounts) | Prunus virginiana | PRVI | DTDD | DTDD | DDDD | PPPP | UUUU | DDDD | PPPP |
| Current | Ribes spp. | RIBES | DDDD | DDDD | DDDD | PPPP | UUUU | DDDD | DDDD |
| Dogwood | Cornus spp. | CORNU | DDDD | DPDD | DDDD | DPDD | DDDD | DPDD | DPDD |
| Early (alkali) sage | Artemisia arbuscula ssp. longiloba | ARAL | UUUU | UUUU | UUUU | PPPP | PPPP | UUUU | UUUU |
| Elderberry | Sambucus spp. | SAMBU | DDDD | DDDD | UUUU | PPPP | UUUU | DDDD | DDDD |
| Fringed sagewort | Artemisia frigida | ARFR4 | UUUU | UUUU | UUUU | UUUU | DDDD | UUUU | UUUU |
| Goldenweed, shrubby | Ericameria suffruticosa | ERSU13 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Greasewood (toxic in large amounts) | Sarcobatus vermiculatus | SAVE4 | UUUU | DDDD | UUUU | DDDD | DDDD | UUUU | UUUU |
| Green (low) rabbitbrush | Chrysothamnus viscidiflorus | CHV18 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Juniper, common | Juniperus communis var. depressa | JUCOD | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Juniper, Rocky Mountain | Juniperus scopulorum | JUSC2 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Limber pine | Pinus flexilis | PIFL2 | NNNN | NNNN | NNNN | NNNN | NNNN | NNNN | NNNN |
| Low sagebrush | Artemisia arbuscula ssp. arbuscula | ARAR8 | UUUU | DDDD | UUUU | DDDD | DDDD | DDDD | DDDD |
| Mountain big sagebrush | Artemisia tridentata ssp. vaseyana | ARTRV | UUUU | DDDD | UUUU | DDDD | DDDD | UUUU | UUUU |
| Mountain mahogany | Cercocarpus spp. | CERCO | PPPP | PPPP | DDDD | PPPP | UUUU | PPPP | PPPP |
| Raspberry | Rubus idaeus | RUID | UUUU | UUUU | UUUU | DDDD | UUUU | UUUU | DDDD |
| Rubber rabbitbrush | Ericameria nauseosa | ERNA10 | UUUU | PPPP | UUUU | DDDD | PPPP | DDDD | DDDD |
| Serviceberry | Amelanchier alnifolia | AMAL2 | DDDD | PPPP | UUUU | PPPP | DDDD | DDDD | DDDD |
| Shrubby cinquefoil | Dasiphora floribunda | DAFL3 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Silverberry | Elaeagnus commutata | ELCO | UUUU | DDDD | UUUU | UUUU | DDDD | UUUU | PPPP |
| Silver sagebrush | Artemisia cana | ARCA13 | UUUU | DDDD | UUUU | PPPP | PPPP | DDDD | DDDD |
| Snowberry (western) | Symphoricarpos occidentalis | SYOC | UUUU | UUUU | UUUU | DDDD | UUUU | UUUU | UUUU |
| Snowbrush ceanothus | Ceanothus velutinus | CEVE | UUUU | DDDD | UUUU | DDDD | UUUU | DDDD | UUUU |
| Spiked big sagebrush | Artemisia tridentata ssp. spiciformis | ARTRS2 | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU |
| Thimbleberry | Rubus parviflorus | RUPA | UUUU | DDDD | UUUU | UUUU | UUUU | UUUU | DPDD |
| Three-tip sagebrush | Artemisia tripartita | ARTR4 | UUUU | DDDD | UUUU | UUUU | DDDD | UUUU | DDDD |
| True mountainmahogany | Cercocarpus montanus | CEMO2 | PPPP | PPPP | DDDD | PPPP | UUUU | PPPP | PPPP |
| Water birch | Betula occidentalis | BEOC2 | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD | DDDD |
| Wild rose | Rosa woodsii var. woodsii | ROWOW | DDDD | DDDD | UUUU | DDDD | DDDD | DDDD | DDDD |
| Willow, Bebb's | Salix bebbiana | SABE2 | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, Blueberry | Salix myrtillofolia | SAMY | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, Booth's | Salix boothii | SABO2 | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, coyote (sandbar) | Salix exigua | SAEX | PPPP | PPPP | DDDD | PPPP | UUUU | PPPP | PPPP |
| Willow, Drummonds | Salix drummondiana | SADR | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, grayleaf | Salix glauca | SAGL | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, Geyers | Salix geyeriana | SAGE2 | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, Lemmons | Salix lemmonii | SALE | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, peachleaf | Salix amygdaloides | SAMM2 | PPPP | PPPP | DDDD | PPPP | UUUU | PPPP | PPPP |
| Willow, planeleaf (diamondleaf) | Salix planifolia | SAPL2 | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, pussy | Salix discolor | SADI | DDDD | DDDD | DDDD | DDDD | UUUU | DDDD | DDDD |
| Willow, Scoulers | Salix scouleriana | SASC | PPPP | PPPP | DDDD | PPPP | DDDD | PPPP | PPPP |
| Willow, short-fruit (barrenground) | Salix brachycarpa | SABR | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, tweedy | Salix tweedyi | SATW | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, whiplash | Salix lucida ssp. Caudata | SALUC | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, interior | Salix interior | SAIN3 | DDDD | PPPP | DDDD | PPPP | DDDD | DDDD | PPPP |
| Willow, wolf | Salix woffii | SAWO | UUUU | UUUU | UUUU | UUUU | UUUU | UUUU | DDDD |
| Willow, yellow | Salix lutea | SALU2 | PPPP | PPPP | DDDD | PPPP | UUUU | PPPP | PPPP |
| Wyoming big sagebrush | Artemisia tridentata ssp. wyomingensis | ARTRW8 | UUUU | DDDD | UUUU | PPPP | PPPP | UUUU | UUUU |

N = not used; U = undesirable; D = desirable; P = preferred; T = toxic

Animal Community – Grazing Interpretations

The following table lists suggested stocking rates for cattle under continuous season-long grazing under normal growing conditions. These are conservative estimates that should be used only as guidelines in the initial stages of the conservation planning process. Often, the current plant composition does not entirely match any particular plant community (as described in this ecological site description). Because of this, a field visit is recommended, in all cases, to document plant composition and production. More precise carrying capacity estimates should eventually be calculated using this information along with animal preference data, particularly when grazers other than cattle are involved. Under more intensive grazing management, improved harvest efficiencies can result in an increased carrying capacity. If distribution problems occur, stocking rates must be reduced to maintain plant health and vigor.

| Plant Community | Production (lb./ac) | Carrying Capacity* (AUM/ac) |
|-------------------------------|------------------------|--------------------------------|
| Bunchgrass/Bitterbrush | 1100-2000 | .5 |
| Mountain Big Sage/Bitterbrush | 900-1800 | .4 |
| Mountain Big Sage/Snowberry | 500-1400 | .22 |
| Cheatgrass | 300-1200 | .12 |

* - Continuous, season-long grazing by cattle under average growing conditions.

Grazing by domestic livestock is one of the major income-producing industries in the area. Rangeland in this area may provide yearlong forage for cattle, sheep, or horses. During the dormant period, the forage for livestock use needs to be supplemented with protein because the quality does not meet minimum livestock requirements.

Hydrology Functions

Water is the principal factor limiting forage production on this site. This site is dominated by soils in hydrologic group A and B. Infiltration ranges from rapid to moderate. Runoff potential for this site varies from low to moderate depending on soil hydrologic group and ground cover. In many cases, areas with greater than 75% ground cover have the greatest potential for high infiltration and lower runoff. Areas where ground cover is less than 50% have the greatest potential to have reduced infiltration and higher runoff (refer to Part 630, NRCS National Engineering Handbook for detailed hydrology information).

Rills and gullies should not typically be present. Water flow patterns should be barely distinguishable if at all present. Pedestals are only slightly present in association with bunchgrasses. Litter typically falls in place, and signs of movement are not common. Chemical and physical crusts are rare to non-existent. Cryptogamic crusts are present, but only cover 1-2% of the soil surface.

Recreational Uses

This site provides hunting opportunities for upland game species. The wide variety of plants which bloom from spring until fall have an esthetic value that appeals to visitors. The varied topography and large boulders appeal to hikers and mountain bikers.

Wood Products

No appreciable wood products are present on the site.

Other Products

Supporting Information

Associated Sites

| | |
|---------------|-------------|
| Shallow Loamy | R043BY262WY |
| Loamy | R043BY222WY |
| Overflow | R043BY230WY |
| Clayey | R043BY204WY |

Similar Sites

R034AY208WY – Coarse Upland (CU), 10-14W has lower production.

Inventory Data References (narrative)

Information presented here has been derived from NRCS clipping data and other inventory data. Field observations from range trained personnel were also used. Those involved in developing this site include: Bill Christensen, Range Management Specialist, NRCS; Karen Clause, Range Management Specialist, NRCS; and Everett Bainter, Range Management Specialist, NRCS. Other sources used as references include: USDA NRCS Water and Climate Center, USDA NRCS National Range and Pasture Handbook, and USDA NRCS Soil Surveys from various counties.

Inventory Data References

| <u>Data Source</u> | <u>Number of Records</u> | <u>Sample Period</u> | <u>State</u> | <u>County</u> |
|--------------------|--------------------------|----------------------|--------------|------------------|
| SCS-RANGE-417 | 58 | 1966-1986 | WY | Lincoln & others |

State Correlation

Type Locality

Field Offices

Lyman, Cokeville, Afton, Jackson, Pinedale

Relationship to Other Established Classifications

Other References

Site Description Approval

State Range Management Specialist

Date